

10/772,170

STN - STRUCTURE SEARCH
10-20-04

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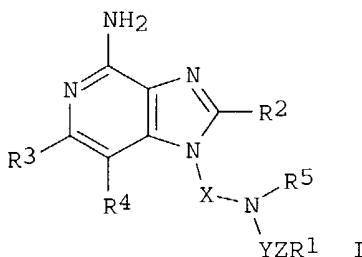
L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:276738 CAPLUS
DOCUMENT NUMBER: 138:287671
TITLE: Preparation of aminoimidazopyridinylalkyl(thio)ureas as cytokine biosynthesis inducers.
INVENTOR(S): Dellaria, Joseph F.; Haraldson, Chad A.; Heppner, Philip D.; Lindstrom, Kyle J.; Merrill, Bryon A.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S., 40 pp., Cont.-in-part of U.S. Ser. No. 16,073.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6545017	B1	20030408	US 2002-165453	20020607
US 2002107262	A1	20020808	US 2001-16073	20011206
WO 2003050117	A1	20030619	WO 2002-US18220	20020607
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EP 1451186	A2	20040901	EP 2002-741939	20020607
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EP 1451187	A1	20040901	EP 2002-744260	20020607
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EP 1453829	A1	20040908	EP 2002-739783	20020607
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US 6720334	B2	20040413		
US 2003195209	A1	20031016	US 2003-357777	20030204
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US 2004157879	A1	20040812	US 2004-771639	20040204
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			US 2001-16073	B2 20011206
			US 2002-165453	A1 20020607
			WO 2002-US18220	W 20020607
			WO 2002-US18282	W 20020607
			WO 2002-US18284	W 20020607
			US 2003-358017	A1 20030204

OTHER SOURCE(S): MARPAT 138:287671

GI



AB Title compds. [I; X = alkylene, alkenylene; Y = CO, CS; Z = NR₆, NR₆CO, NR₆SO₂, NR₇; R₁ = (substituted) aryl, heteroaryl, heterocycl, alkyl, alkenyl; R₂ = H, (substituted) alkyl, alkenyl, aryl, heteroaryl, etc.; R₃, R₄ = H, alkyl, alkenyl, halo, alkoxy, amino, alkylthio; R₅, R₆ = H, alkyl; X R₅, R₁R₇ = atoms to form a ring; R₇ = H, (heteroatom-interrupted) alkyl], were prepared. Thus, PhNCO was added to 1-(4-aminobutyl)-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-4-amine in CH₂Cl₂ under ice cooling followed by stirring for 30 min. to give N-[4-[4-amino-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]butyl]-N'-phenylurea. The latter induced interferon and tumor necrosis factor synthesis in human peripheral blood mononuclear cells with least effective concns. of 0.12 and 0.37 μM, resp.

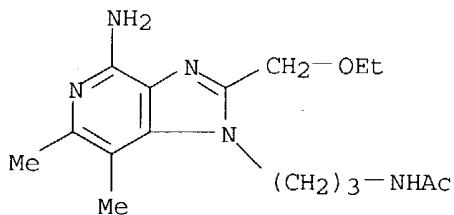
IT 499127-22-9P 499127-33-2P 507225-52-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of aminoimidazopyridinylalkyl(thio)ureas as cytokine biosynthesis inducers)

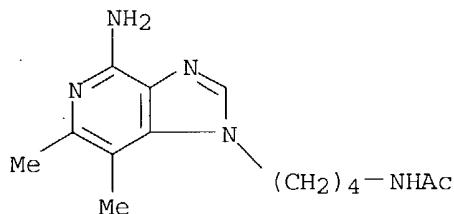
RN 499127-22-9 CAPLUS

CN Acetamide, N-[3-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]propyl]- (9CI) (CA INDEX NAME)

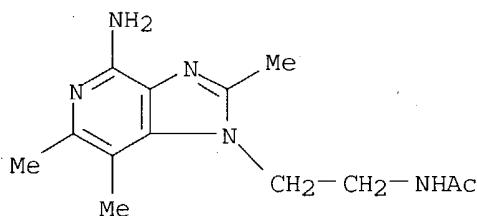


10/772,170

RN 499127-33-2 CAPLUS
CN Acetamide, N-[4-(4-amino-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]-
(9CI) (CA INDEX NAME)



RN 507225-52-7 CAPLUS
CN Acetamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:276737 CAPLUS
DOCUMENT NUMBER: 138:304283
TITLE: Preparation of aminoimidazopyridinylalkylamides as inducers of cytokine biosynthesis.
INVENTOR(S): Dellarria, Joseph F.; Haraldson, Chad A.; Heppner, Philip D.; Lindstrom, Kyle J.; Merrill, Bryon A.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S., 37 pp., Cont.-in-part of U.S. Ser. No. 16,073, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6545016	B1	20030408	US 2002-165229	20020607
US 2002107262	A1	20020808	US 2001-16073	20011206
WO 2003050117	A1	20030619	WO 2002-US18220	20020607
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WO 2003050118 A1 20030619 WO 2002-US18282 20020607

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WO 2003050119 A2 20030619 WO 2002-US18284 20020607

WO 2003050119 A3 20030710

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BR 2002014749 A 20040831 BR 2002-14749 20020607

EP 1451186 A2 20040901 EP 2002-741939 20020607

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
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EP 1451187 A1 20040901 EP 2002-744260 20020607

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EP 1453829 A1 20040908 EP 2002-739783 20020607

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US 2003162806 A1 20030828 US 2003-357995 20030204

US 6720333 B2 20040413

US 2003186949 A1 20031002 US 2003-357733 20030204

US 6720422 B2 20040413

US 2004186128 A1 20040923 US 2004-772170 20040204

US 2000-254228P P 20001208

US 2001-16073 B2 20011206

US 2002-165229 A1 20020607

WO 2002-US18220 W 20020607

WO 2002-US18282 W 20020607

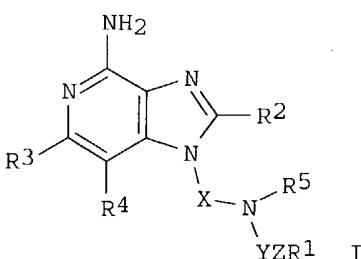
WO 2002-US18284 W 20020607

US 2003-357995 A1 20030204

PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 138:304283

GI



AB Title compds. [I; X = alkylene, alkenylene; Y = CO, CS; Z = bond, O, S; R1 = (substituted) aryl, heteroaryl, heterocyclyl; R2 = H, alkoxyalkyl, aryloxyalkyl, (substituted) aryl, heteroaryl, alkyl, alkenyl, etc.; R3, R4 = H, alkyl, alkenyl, halo, alkoxy, amino, alkylthio; R5 = H, alkyl; R5X, R1R5 = atoms to form a ring], were prepared Thus, Et₃N and 1-(4-aminobutyl)-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-4-amine (preparation given) in CH₂Cl₂ were treated with methanesulfonic anhydride under ice cooling followed by stirring for 35 min. to give N-[4-(4-amino-2-butyl-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]methanesulfonamide. The latter induced interferon and tumor necrosis factor production in human peripheral blood mononuclear cells at lowest effective concns. of 0.0046 and 0.01 μM, resp.

IT 499127-18-3P 499127-22-9P 499127-33-2P

499127-82-1P 507225-50-5P 507225-51-6P

507225-52-7P 507225-53-8P 507225-54-9P

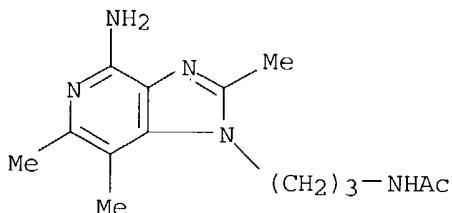
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of aminoimidazopyridinylalkylamides as inducers

of cytokine biosynthesis)

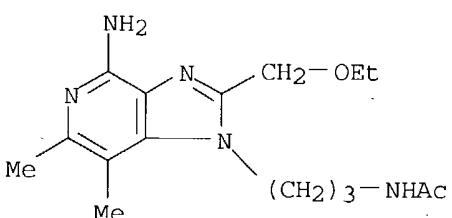
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CN Acetamide, N-[3-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)propyl]- (9CI) (CA INDEX NAME)



RN 499127-22-9 CAPLUS

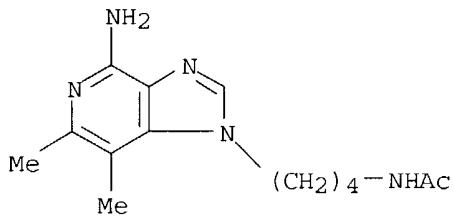
CN Acetamide, N-[3-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]propyl]- (9CI) (CA INDEX NAME)



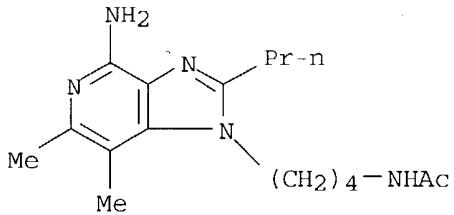
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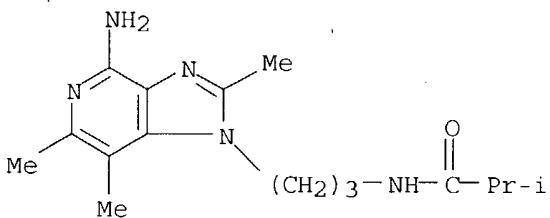
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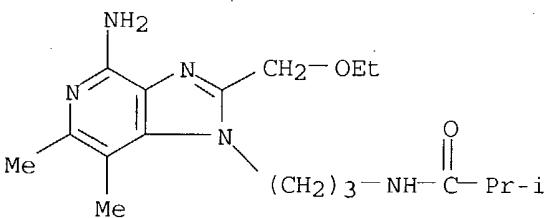
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RN 507225-50-5 CAPLUS
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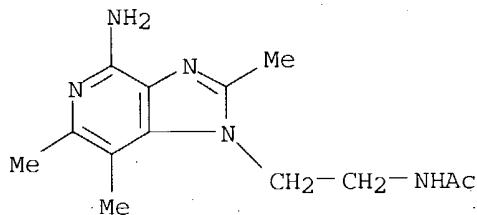


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CN Propanamide, N-[3-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]propyl]-2-methyl- (9CI) (CA INDEX NAME)

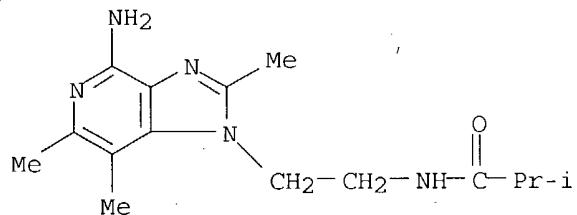


RN 507225-52-7 CAPLUS
CN Acetamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]- (9CI) (CA INDEX NAME)

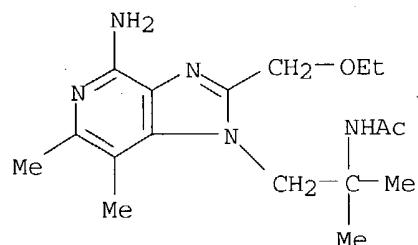
10/772,170



RN 507225-53-8 CAPLUS
CN Propanamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]-2-methyl- (9CI) (CA INDEX NAME)



RN 507225-54-9 CAPLUS
CN Acetamide, N-[2-[4-amino-2-(ethoxymethyl)-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl]-1,1-dimethylethyl]- (9CI) (CA INDEX NAME)



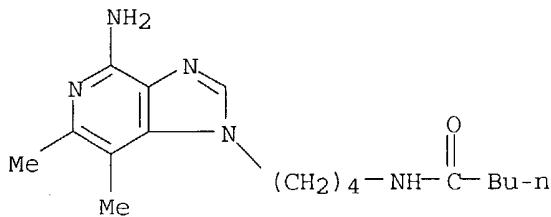
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507226-61-1P 507226-69-9P 507226-95-1P
507227-01-2P 507228-75-3P 507228-78-6P
507228-82-2P 507228-87-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminoimidazopyridinylalkylamides as inducers of cytokine biosynthesis)

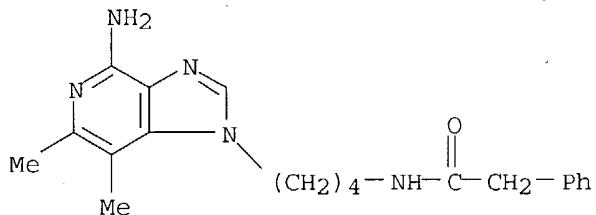
RN 507225-69-6 CAPLUS
CN Pentanamide, N-[4-(4-amino-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]- (9CI) (CA INDEX NAME)

10/772, 170



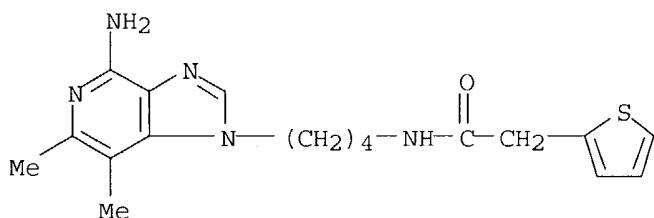
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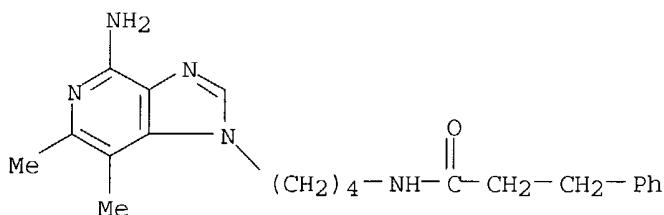
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CN 2-Thiopheneacetamide, N-[4-(4-amino-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]- (9CI) (CA INDEX NAME)



RN 507225-76-5 CAPLUS

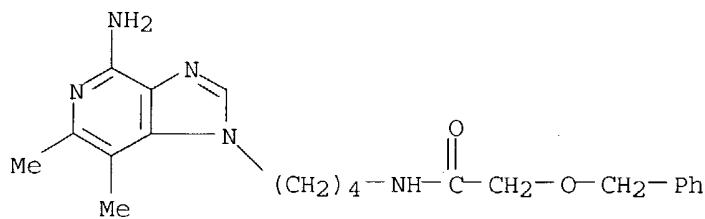
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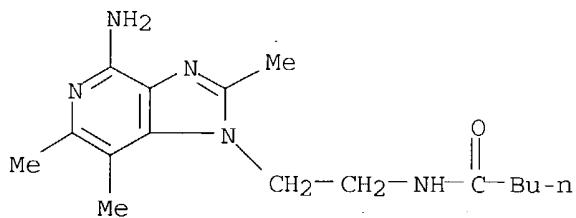
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CN Acetamide, N-[4-(4-amino-6,7-dimethyl-1H-imidazo[4,5-c]pyridin-1-yl)butyl]-2-(phenylmethoxy)- (9CI) (CA INDEX NAME)

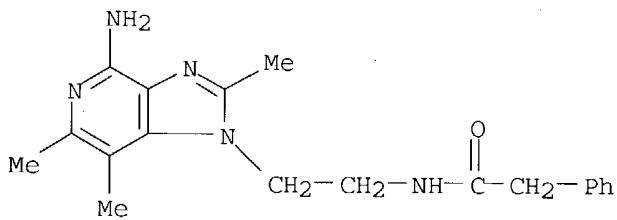
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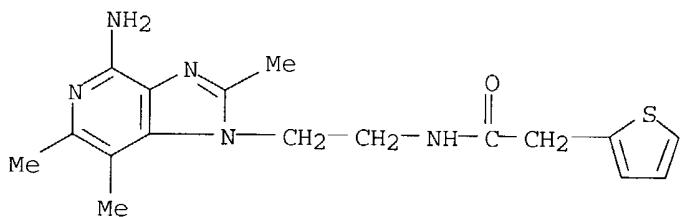
RN 507226-18-8 CAPLUS
CN Pentanamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]- (9CI) (CA INDEX NAME)



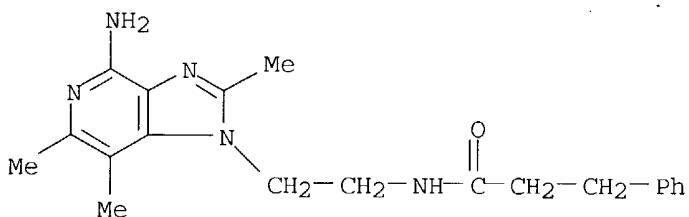
RN 507226-20-2 CAPLUS
CN Benzeneacetamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]- (9CI) (CA INDEX NAME)



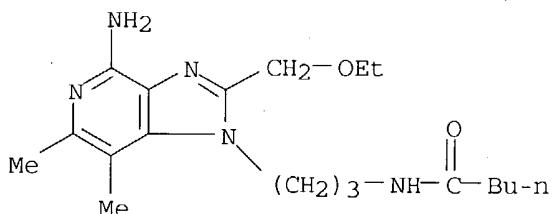
RN 507226-22-4 CAPLUS
CN 2-Thiopheneacetamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]- (9CI) (CA INDEX NAME)



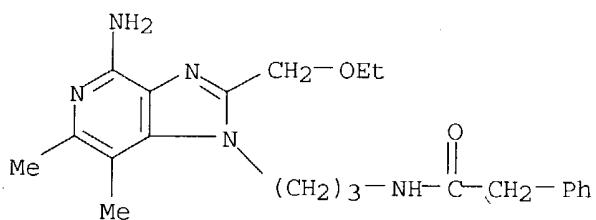
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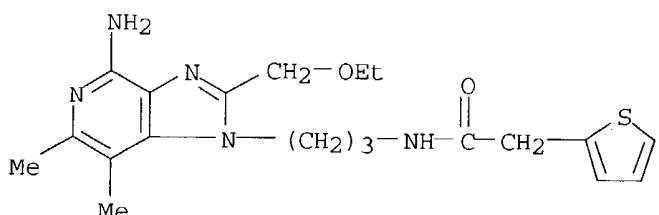
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RN 507226-51-9 CAPLUS
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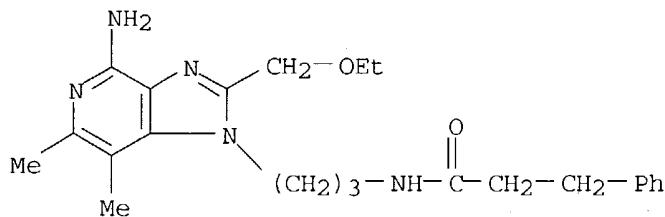


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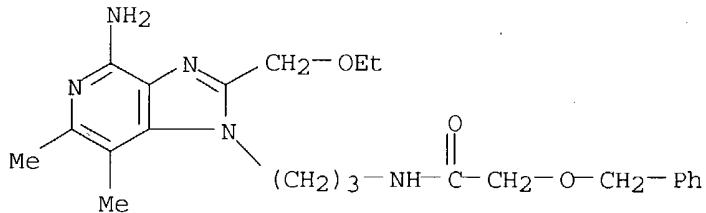
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10/772,170



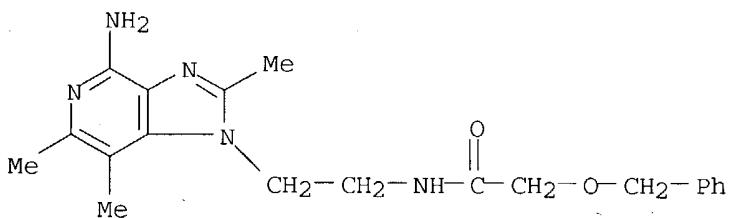
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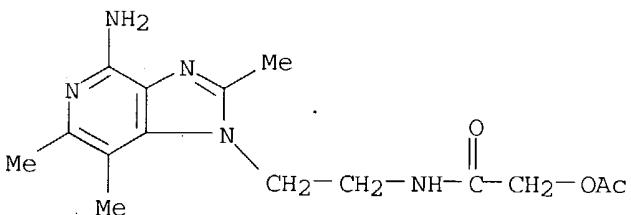
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RN 507227-01-2 CAPLUS

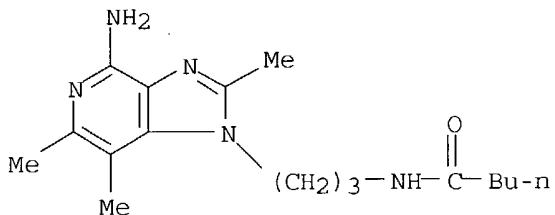
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RN 507228-75-3 CAPLUS

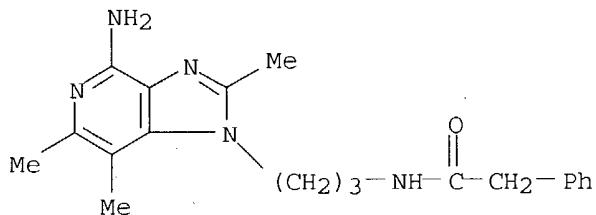
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10/772,170



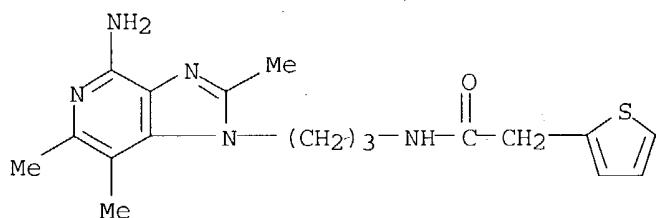
RN 507228-78-6 CAPLUS

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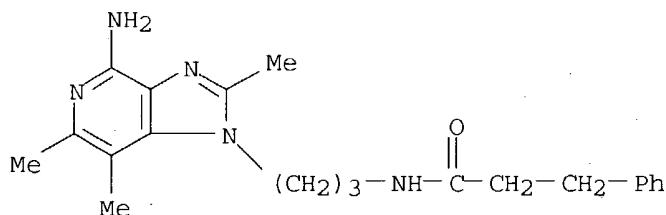
RN 507228-82-2 CAPLUS

CN 2-Thiopheneacetamide, N-[3-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)propyl]- (9CI) (CA INDEX NAME)



RN 507228-87-7 CAPLUS

CN Benzenepropanamide, N-[3-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)propyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

59

THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ACCESSION NUMBER: 2003:150533 CAPLUS

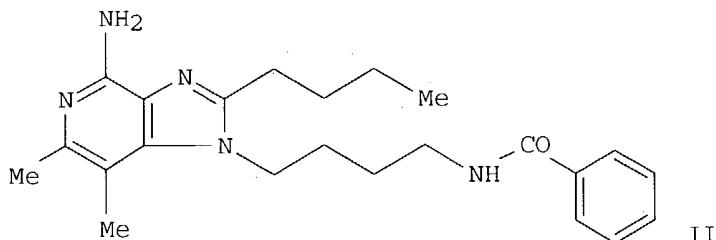
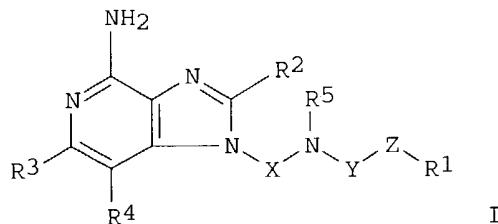
DOCUMENT NUMBER: 138:187770

TITLE: Preparation of sulfonamido/benzamido-alkyl substituted imidazopyridines as immune response modifiers
 INVENTOR(S): Dellaria, Joseph F.; Haraldson, Chad A.; Heppner, Philip D.; Lindstrom, Kyle J.; Merrill, Bryon A.
 PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
 SOURCE: U.S., 35 pp., Cont.-in-part of U.S. Ser. No. 16,073, abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 4
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6525064	B1	20030225	US 2002-165002	20020607
US 2002107262	A1	20020808	US 2001-16073	20011206
WO 2003050117	A1	20030619	WO 2002-US18220	20020607
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US 2004019076	A1	20040129	US 2002-322262	20021217

US 6696465	B2	20040224	US 2004-754056	20040107
US 2004147533	A1	20040729	US 2000-254228P	P 20001208
PRIORITY APPLN. INFO.:			US 2001-16073	B2 20011206
			US 2002-165002	A1 20020607
			WO 2002-US18220	W 20020607
			WO 2002-US18282	W 20020607
			WO 2002-US18284	W 20020607
			US 2002-322262	A1 20021217

OTHER SOURCE(S) : MARPAT 138:187770
GI



AB Title compds. I [X = alk(en)ylene; Y = SO₂; Z = bond, amino; R₁ = aryl, heteroaryl, alkyl, heterocyclyl, etc.; R₂ = H, alkyl, alkenyl, aryl, etc.; R₃₋₄ = H, alkyl, alkenyl, halo, alkoxy, etc.; R₅ = H, alkyl, etc.] are prepared. For instance, 4-hydroxy-5,6-dimethyl-3-nitro-2(1H)-pyridone was reacted with triflic anhydride and mono-Boc-1,4-butanediamine to give 4-[[4-[(tert-butoxycarbonyl)amino]butyl]amino]-5,6-dimethyl-3-nitropyridin-2-yl trifluoromethanesulfonate. This intermediate was reacted with dibenzylamine (PhMe, Et₃N), reduced to the amino derivative (MeOH, NaBH₄, NiCl₂), acylated/cyclized (CH₃CN, valeryl chloride, Et₃N), deprotected (CH₂Cl₂, triflic acid) and acylated (CH₂Cl₂, PhCOCl) to give II. II caused interferon induction at 0.12 μM and TNF induction at 1.11 μM. I can induce the biosynthesis of various cytokines and are useful in the treatment of a variety of conditions including viral diseases and neoplastic diseases.

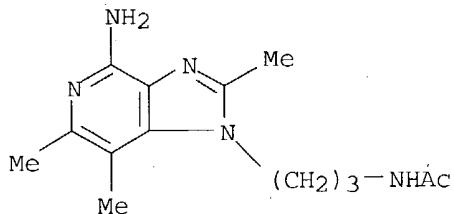
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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

10/772,170

(preparation of sulfonamido/benzamido-alkyl substituted imidazopyridines as
immune response modifiers)

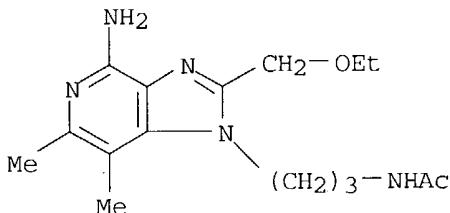
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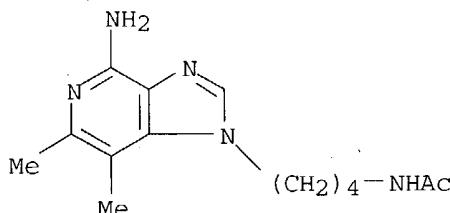
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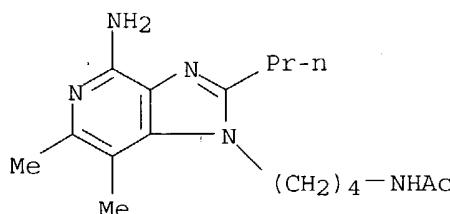
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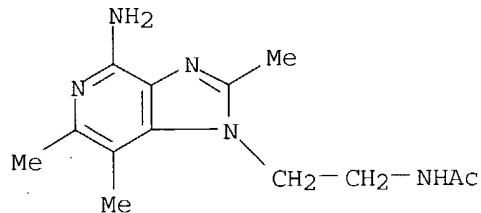
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CN Acetamide, N-[4-(4-amino-6,7-dimethyl-2-propyl-1H-imidazo[4,5-c]pyridin-1-
yl)butyl]- (9CI) (CA INDEX NAME)



10/772,170

RN 499128-17-5 CAPLUS
CN Acetamide, N-[2-(4-amino-2,6,7-trimethyl-1H-imidazo[4,5-c]pyridin-1-yl)ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 09:24:38 ON 20 OCT 2004)

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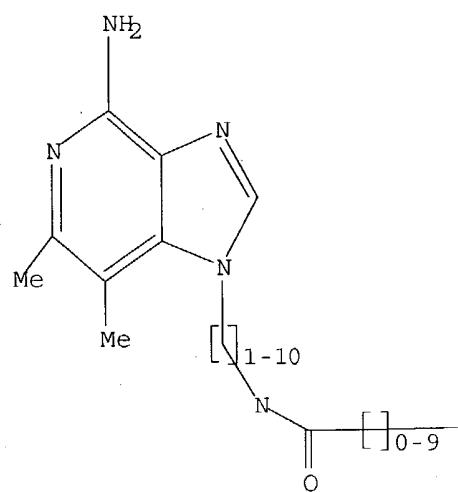
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L1 HAS NO ANSWERS

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G4 Cy,Ak

Structure attributes must be viewed using STN Express™ query preparation.

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PALM INTRANET

 Day : Wednesday
 Date: 10/20/2004
 Time: 09:13:36

Inventor Name Search Result

Your Search was:

Last Name = HEPPNER

First Name = PHILIP

Application#	Patent#	Status	Date Filed	Title	Inventor Name 42
60603303	Not Issued	020	08/20/2004	PYRAZOLOPYRIDINES AND ANALOGS THEREOF	HEPPNER, PHILIP D.
60581317	Not Issued	020	06/18/2004	ARYL SUBSTITUTED IMIDAZONAPHTHYRIDINES	HEPPNER, PHILIP D.
60581316	Not Issued	020	06/18/2004	SUBSTITUTED THIAZOLOPYRIDINES, THIAZOLOQUINOLINES AND THIAZOLONAPHTHYRIDINES	HEPPNER, PHILIP D.
60581297	Not Issued	020	06/18/2004	ARYLOXY AND ARYLALKYLENEOXY SUBSTITUTED THIAZOLOQUINOLINES AND THIAZOLONAPHTHYRIDINES	HEPPNER, PHILIP D.
60581205	Not Issued	020	06/18/2004	ARYL AND ARYLALKYENYL SUBSTITUTED THIAZOLOQUINOLINES AND THIAZOLONAPHTHYRIDINES	HEPPNER, PHILIP D.
60579352	Not Issued	020	06/14/2004	UREA SUBSTITUTED IMIDAZOPYRIDINES, IMIDAZOQUINOLINES, AND IMIDAZONAPHTHYRIDINES	HEPPNER, PHILIP D.
60554680	Not Issued	020	03/19/2004	PYRAZOLOPYRIDINES AND ANALOGS THEREOF	HEPPNER, PHILIP D.
60516331	Not Issued	020	10/31/2003	ARYL SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
60508634	Not Issued	159	10/03/2003	ALKOXY SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
60254218	Not Issued	159	12/08/2000	ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
10824232	Not Issued	030	04/14/2004	IMIDAZONAPHTHYRIDINES	HEPPNER, PHILIP D.
10772170	Not	030	02/04/2004	AMIDE SUBSTITUTED	HEPPNER,

	Issued			IMIDAZOPYRIDINES	PHILIP D.
10771639	Not Issued	041	02/04/2004	UREA SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
10754056	Not Issued	041	01/07/2004	SULFONAMIDO SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
10696753	Not Issued	061	10/29/2003	ARYL ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
10696478	Not Issued	071	10/29/2003	SULFONAMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
10696476	Not Issued	030	10/29/2003	SULFONAMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
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10681711	Not Issued	071	10/07/2003	AMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
10681457	Not Issued	030	10/07/2003	AMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
10680989	Not Issued	071	10/07/2003	UREA SUBSTITUTED IMIDAZOQUINOLINE ETHERS	HEPPNER, PHILIP D.
10675833	Not Issued	071	09/30/2003	HETEROCYCLIC ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
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10406181	6797716	150	04/03/2003	IMIDAZONAPHTHYRIDINES	HEPPNER, PHILIP D.
10358017	6720334	150	02/04/2003	UREA SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
10357995	6720333	150	02/04/2003	AMIDE SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
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10165750	6677348	150	06/07/2002	ARYL ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
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10165449	6664265	150	06/07/2002	AMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
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IMIDAZOQUINOLINES					
<u>10165229</u>	6545016	150	06/07/2002	AMIDE SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
<u>10165002</u>	6525064	150	06/07/2002	SULFONAMIDO SUBSTITUTED IMIDAZOPYRIDINES	HEPPNER, PHILIP D.
<u>10164816</u>	6660735	150	06/07/2002	UREA SUBSTITUTED IMIDAZOQUINOLINE ETHERS	HEPPNER, PHILIP D.
<u>10013202</u>	6670372	150	12/06/2001	ARYL ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
<u>10013060</u>	6656938	150	12/06/2001	UREA SUBSTITUTED IMIDAZOQUINOLINE ETHERS	HEPPNER, PHILIP D.
<u>10012599</u>	6683088	150	12/06/2001	SULFONAMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
<u>10011921</u>	6664260	150	12/06/2001	HETERO CYCLIC ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
<u>10011670</u>	6660747	150	12/06/2001	AMIDO ETHER SUBSTITUTED IMIDAZOQUINOLINES	HEPPNER, PHILIP D.
<u>09706990</u>	6514985	150	11/06/2000	IMIDAZONAPHTHYRIDINES	HEPPNER, PHILIP D.
<u>09210114</u>	6194425	150	12/11/1998	IMIDAZONAPHTHYRIDINES	HEPPNER , PHILIP D.

Inventor Search Completed: No Records to Display.

Last Name	First Name
Heppner	Philip

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